

## ABSTRACT OF THE DISCLOSURE

The orbital engine or pump comprising of drive train, having several elliptical gears each rotating around focal point with focal distance defined as function of minimum vanes opening, and toroidal cylinders each having inside two impellers with radial vanes continuously rotating with oscillation through a series of identical elliptical gears with one gear on each impeller shaft and second gears in mesh located on input/output shaft out of phase allowing synchronization of cycles performed in each chamber inside toroidal cylinders positioned planetary to input/output shaft. Some of the chambers could be selectively allocated to perform suction, compression, vacuum and combustion with air, gas, steam and liquid media through efficient internal rotary valves attached to impellers or housing and in most cases, eliminating the need for external valving.